PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Eric DeLano	)
		)
Serial No.	10/044,401	)
		)
Filed:	January 11, 2002	)
		)
For:	CUSTOMIZED PORTS IN A	)
	CROSSBAR AND METHOD FOR	)
	TRANSMITTING DATA BETWEEN	)
	CUSTOMIZED PORTS AND SYSTEM	)
	AGENTS	)
		)
Group Art Unit: 2112		)
Confirmation No. 8893		)
Examiner: Lee, Christopher E.		)

I hereby certify that this paper is being deposited with the United States Postal Service as FIRST-CLASS mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this date.

9/28/05

Date _____ Registration No. 26,174

F-CLASS.WCM

Appr. February 20, 1998   *Attorney for Applicant*

TRANSMITTAL OF APPEAL BRIEF

MS Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Transmitted herewith is the Appeal Brief in this application in response to the Notification of Non-Compliant Appeal Brief dated September 6, 2005.

The fee in the amount of $500.00 was paid on June 20, 2005.

The Commissioner is hereby authorized to charge any additional fee which may be required, or credit any overpayment to Deposit Account No. 08-2025. Should no proper payment be enclosed, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 08-2025. (One additional copy of this Notice is enclosed herewith.)

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

September 28, 2005

By _____

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10016664-1   PATENT APPLICATION

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APPELLANT'S BRIEF ON APPEAL PURSUANT TO 37 CFR § 41.37

      This Appeal Brief is in support of Applicant's Notice of Appeal dated

April 18, 2005

REAL PARTY IN INTEREST

Hewlett-Packard Development Company.

RELATED APPEALS AND INTERFERENCES

None.

STATUS OF CLAIMS

Claims that are pending, finally rejected and appealed are 1-8, 10-14, 16 and 17. Claims 9 and 15 have been cancelled.

STATUS OF AMENDMENTS

No amendments were filed after the final office action dated January 18, 2005.

SUMMARY OF CLAIMED SUBJECT MATTER

The invention concerns customized ports in a crossbar, which by way of background, is a chip or chip component commonly used to provide a processing system of high frequency links between multiple ports and system agents. In the prior art, each port has been generally designed as an input port for receiving data from system agents (i.e., source agents) and an output port for transmitting data from the input ports to other system agents (i.e., destination agents). The system agents can include multiple computer components, such as a central processing unit (CPU), Input/Output (I/O) controllers, memory controllers and cache memory.

The present invention provides a crossbar (Fig. 2, item 50) for providing connections between a plurality of ports (52, 54, 56, 58) and a plurality of system agents via a processing system (Fig. 3, 100), which includes a plurality of ports, with each port being capable of being an input port customized for receiving data from a source agent and an output port customized for transferring data to a destination agent,

and crossbar control data (Page 6, para. 0019) for specifying crossbar control information for transferring data from an input port to an output port having different port configurations. (Pages 8-9, paras. 0023-0025)

The present invention also provides a method for transmitting data between customized ports and a plurality of system agents in a processing system (Fig. 3, 100) via a crossbar, which includes the steps of receiving data on an input port, obtaining the destination output port for the data received on the input port, determining whether the input port has the same configurations as the output port, obtaining control information from the crossbar control data when the input port does not have the same configurations as the output port, processing the data according to the obtained control information from the crossbar control data, and transmitting the processed data to the destination output port. (Figs. 4 & 5, Pages 10-12, paras. 0027-0030)

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1.   Whether the §112, second paragraph rejection of claims 12, 16 and 17 should be reversed because of applicant's use of the recitation "the width of the input port" and "the width of the output port", rather than the examiners' suggested recitations "a width of the input port" and "a width of the output port"?

2.   Whether the §102(b) rejection of claims 1, 3, 6-8 and 11-13 based on Yokoyama (JP 411296473) should be reversed because of the examiner's misinterpretation of Yokoyama?

3.   Whether the §103 rejection of claims 16 and 17 should be reversed as being based upon the misinterpretation of Yokoyama in combination with Lach?

ARGUMENT

1. **The §112, Second Paragraph Rejection of Claims 12, 16 and 17 Should be Reversed Because of Applicant's use of the Recitation "the Width of the Input Port" and "the Width of the Output Port" is not indefinite.**

Claims 12, 16 and 17 stand rejected under §112, second paragraph because of applicant's use of the recitation "the width of the input port" and "the width of the output port". The examiner maintained this rejection after applicant declined the examiner's suggested use of the recitations "a width of the input port" and "a width of the output port". Applicant declined to make this change for the reason that the proposed change is simply awkward and unnecessary. It elevates form over substance. The applicant's usage would not be indefinite to one of ordinary skill in the art. Antecedent basis is not or should not be an issue with regard to *width* of a port, as every port has some width, particularly so in the context of these claims. However, applicant states that should this rejection be the sole impediment to an allowance of these claims, applicant consents to the examiner's proposed language change.

2. **Claims 1, 3, 6-8 and 11-13 are not Anticipated Under §102(b) by Yokoyama When Yokoyama is Properly Interpreted.**

Claims 1, 3, 6-8 and 11-13 stand rejected under §102 based on Yokoyama. This rejection should be reversed as it is based upon a misinterpretation of Yokoyama.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). "The ordinary and customary meaning of a claim term to one of ordinary skill in the art may be ascertained from a variety of sources, first, as *Vitronics* instructs, from the intrinsic evidence of record such as the claims themselves, the written description, and the prosecution history, but also from the 'common

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understanding' of the terms that may be reflected in dictionaries, encyclopedias, and treatises." *W.E. Hall Co., Inc. v. Atlanta Corrugating, LLC*, 370 F.3d 1343, 1350(Fed. Cir. 2004) (citation omitted). Claim terms are presumed to have the ordinary and customary meanings attributed to them by those of ordinary skill in the art. *Sunrace Roots Enter. Co. v. SRAM Corp.*, 336 F.3d 1298, 1302 (Fed. Cir. 2003). The broadest reasonable interpretation of the claims to be given during examination by the USPTO must be consistent with the interpretation that those skilled in the art would reach. *In re Cortright*, 165 F.3d 1353 (Fed. Cir. 1999).

With regard to the examiner's rejections, it is noted that the undersigned had a telephone interview with the examiner on September 1, 2004, in which the principal reference of Yokoyama was discussed. The undersigned stated that the extensive discussion of Yokoyama indicated that the examiner understood the Japanese language and that the comments that were made concerning this reference revealed considerable more knowledge than was set forth in the abstract that was provided by the EPO which consisted of less than a full page of description relating to the nature of the operation of the Yokoyama system.

The examiner indicated that he did read Japanese and also informed applicant that the Japanese Patent Office had a free computer translation system in which an English translation could be obtained and offered to acquire and fax the English translation to applicant, which was done. The examiner indicated that such computerized translations are often inaccurate and difficult to understand. In the cover letter of the facsimile transmittal, the examiner specifically cautioned the applicant that the Office is not responsible for any erroneous interpretation resulting from inaccuracies between the original foreign language reference and the machine translation of the reference, as the machine translation may not reflect the original precisely. The translation itself contains similar language. It is also indicated that none of the text shown in the drawings are translated in this machine translation.

The undersigned wishes to point out that the translation was indeed difficult to understand and that the examiner has also relied on descriptions of text contained in drawings which applicant is unable to verify the accuracy of or at least fully consider. Applicant formally requested that if the amendments that are made

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herein were unsuccessful and if Yokoyama continued to be a basis for rejection of the claims of this application, an accurate translation from the USPTO should be provided to applicant. The USPTO did not supply any additional translation.

Because applicant believed that he was disadvantaged by the potential of an incorrect translation, a separate translation was ordered. The second translation was of little assistance. Both of the translations are enclosed with this brief for the possible consideration of the Board.

With regard to amended claim 1, the examiner's position with regard to Yokoyama anticipating the following element recitation:

> *crossbar control data for specifying crossbar control information for transferring data from an input port to an output port having different port configurations, said crossbar control data containing control information for **formatting** bit length of data from an input port to be transmitted to an output port **having less width than the input port**,*

was that setting switches 2 and 3 make the port configure as an output port according to Figs. 3 and 11, with less width than said input port and cites Fig. 24 and paragraph 0149.

The examiner's reliance on Fig. 24 is not instructive as it merely shows a table of control numbers, i.e., C1 through C9, which essentially seems to show that a 256 bit band can be secured for transmitting 128 bit or 256 bit data, with paragraph 0149 reading "C6 shows the case where 128 bit band can be secured in case 256 bit data are transmitted to a 128 bit port and in case C7 transmits 256 bit data to 128 bit port, it shows the case where a band is not securable." Nowhere else in the specification, to the extent that applicant can understand it, is there any discussion that data is **formatted** at all.

All of the other cases (C1-C5 and C8-C9) indicate that data is either smaller or the same size as the output port capacity, and if not, the band is not securable. There is no discussion why or how case C6 differs from case C7 anywhere in the 25 page translation. It is submitted that the described case C6 is either

gratuitous or erroneous. Nowhere in the specification does it indicate that data is reformatted to fit the width of the output port if the output port capacity is less than that of the input port.

Claim 11 is also believed to be allowable for the reason that Yokoyama totally fails to anticipate, teach or suggest a crossbar having a plurality of virtual communication channels on each input port. The examiner attempts to equate a plurality of virtual communication channels on each input port to data paths that are provided by the interconnection of switches in Fig. 5. Applicant believes that this is a totally misplaced reliance on the switch configuration shown in Fig. 5. It has nothing to do with virtual communication channels that are claimed.

Claim 12 is also believed to be allowable over Yokoyama essentially for the same reasons as set forth above with regard to claim 1.

3. Claims 16 and 17 are not Obvious Over Yokoyama in View of Lach

The examiner's position with regard to the amendatory language that was added to claims 16 and 17 (and to claim 12), namely:

> *wherein said step of processing the data further comprising the steps of:*
>> *determining whether the width of the input port is more than the width of the output port;*
>> *submitting the data as processed data when the width of the input port is not more than the width of the output port;*
>> *obtaining the width of the output port when the width of the input port is greater than the width of the output port;*
>> *formatting the data from the input port to data configured for the obtained width of the output port;*
>> *submitting the formatted data as the processed data;*

was that Yokoyama meets the formatting step by Box S20 in Fig. 14, which is untranslated Japanese text that appears to be unimportant, and paragraphs 0090-0091. Paragraphs 0090-0091 in the computer-generated translation read as follows:

"[0090] A discernment bit secures the near path of '1' and the crossbar switch side address control section 61-1 relays a transfer OK signal to the address control section 81-1 in a board of the processor board 2-1 (drawing 14 step S20). [0091] In this case, the crossbar switch side address control section 61-1 records the path and phase hand information which were secured to (memory B) 61C-1 (drawing 14 step S20). Henceforth, with reference to the path and phase hand information which were recorded on (memory B) 61C-1, it checks about the signal from the address control section 81-1 in a board, and if it is a signal from the same communications partner, the junction of the signal will be continued till transfer termination (drawing 14 step S21). In addition, if the crossbar switch side address control section 61-1 becomes transfer termination, it will eliminate the path information on (memory B) 61C-1 simultaneously (drawing 14 step S22)."

Clearly, these paragraphs cited by the examiner have nothing to do with the step of processing the data which comprises the steps of determining whether the width of the input port is more than the width of the output port, submitting the data as processed data when the width of the input port is not more than the width of the output port, obtaining the width of the output port when the width of the input port is greater than the width of the output port; and formatting the data from the input port to data configured for the obtained width of the output port and submitted the formatted data as processed data. This is simply not done by Yokoyama. As can be best understood, Yokoyama transmits 128 bit data or 256 bit data through ports that are capable of handling the various sized data. The system attempts to secure a band for

transmission which may or may not be successful. There is no discussion that has been located which indicates that data is **reformatted** so that it is configured for the obtained width of the output port.

The examiner cites col. 12, lines 3-9 of Lach for the proposition that he takes Official Notice that flow steps can be implemented with the "same or equivalent results" and is well know to those of ordinary skill in the art: *Further, various techniques of the invention may be achieved in either all software implementations, using appropriate processor instructions, or in all hardware logic implementations, or in hybrid implementations that utilize a combination of hardware logic and software logic to achieve the same or equivalent results.*

The examiner ignores the fact that Yokoyama fails to teach or suggest the flow steps themselves and Lach simply fails to supply the basic deficiency of Yokoyama. The examiner's Official Notice does not help him.

CONCLUSION

For the above reasons, Applicant requests the Board to reverse the outstanding rejections. The case should then be permitted to pass to allowance.

Respectfully submitted,

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September 28, 2005

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CLAIMS APPENDIX

1.   A crossbar for providing connections between a plurality of ports and a plurality of system agents via a processing system comprising:

a plurality of ports, each port capable of being an input port customized for receiving data from a source agent and an output port customized for transferring data to a destination agent; and,

crossbar control data for specifying crossbar control information for transferring data from an input port to an output port having different port configurations, said crossbar control data containing control information for formatting bit length of data from an input port to be transmitted to an output port having less width than the input port.

2.   The crossbar according to claim 1 wherein the data received on the input port further comprises control data for indicating validity and destination information relating to data received on the input port.

3.   The crossbar according to claim 1 further comprising at least one register on each input port and each said output port for storing data in memory.

4.   The crossbar according to claim 1 further comprising at least one shift register on each input port for storing data in memory and shifting data with larger bit length to a smaller bit length data for transmission from an input port with more width to an output port with less width.

5.   The crossbar according to claim 1 further comprising at least one multiplexor device on each said input port and each said output port for prioritizing transmissions of data.

6.   The crossbar according to claim 1 wherein an input port and an output port of at least one of said plurality of ports are customized to have different widths.

7.   The crossbar according to claim 1 wherein a plurality of said input ports are customized to have different width.

8. The crossbar according to claim 1 wherein a plurality of said output ports are customized to have different width.

9. Cancelled.

10. The crossbar according to claim 1 wherein said crossbar control data contain control information for use by any one from the group of a shift register or a multiplexor device.

11. A crossbar having a plurality of paths for providing connections between a plurality of ports and a plurality of system agents via a processing system comprising:

a plurality of ports, each port capable of being an input port customized for receiving data from a source agent and an output port customized for transferring data to a destination agent;

a plurality of virtual communication channels on each input port; and,

crossbar control data for specifying crossbar control information for transferring data from a virtual communication channel to an output port having different configurations.

12. A method for transmitting data between customized ports and a plurality of system agents in a processing system via a crossbar, wherein the crossbar includes a plurality of ports, each port capable of being an input port customized for receiving data from a source agent and an output port customized for transferring data to a destination agent, and crossbar control data for specifying crossbar control information for transmitting data from an input port to an output port having different port configurations, the method comprising the steps of:

receiving data on an input port;

obtaining the destination output port for the data received on the input port;

determining whether the input port has the same configuration as the output port;

obtaining control information from the crossbar control data when the input port does not have the same configurations as the output port;

processing the data according to the obtained control information from the crossbar control data;

wherein said step of processing the data further comprising the steps of:

determining whether the width of the input port is more than the width of the output port;

submitting the data as processed data when the width of the input port is not more than the width of the output port;

obtaining the width of the output port when the width of the input port is greater than the width of the output port;

formatting the data from the input port to data configured for the obtained width of the output port;

submitting the formatted data as the processed data; and,

transmitting the processed data to a destination output port.

13.   The method according to claim 12 wherein said step of receiving data further comprises the steps of:

reading control data received with the data on the input port;

determining whether the control data have valid port information; and,

aborting when the control data does not have valid port information.

14.   The method according to claim 13 wherein said step of obtaining the destination output port further comprises the step of obtaining the destination output port from the control data when the control data has valid port information.

15.   Cancelled.

16.   A system for transmitting data between customized ports and a plurality of system agents in a processing system via a crossbar, wherein the crossbar includes a plurality of ports, each port capable of being an input port customized for receiving data from a source agent and an output port customized for transferring data to a destination agent, and crossbar control data for indicating crossbar control information for transmitting data from an input port to an output port having different port configurations, comprising:

a storage medium;

a machine for transmitting data between customized ports and a plurality of system agents in a processing system via a crossbar, the machine comprising a set of instructions for:

receiving data on an input port;

obtaining a destination output port for the data received on the input port;

determining whether the input port has the same configuration as the output port;

obtaining control information from the crossbar control data when the input port does not have the same configurations as the output port;

processing the data according to the obtained control information from the crossbar control data;

wherein said step of processing the data further comprising the steps of:

determining whether the width of the input port is more than the width of the output port;

submitting the data as processed data when the width of the input port is not more than the width of the output port;

obtaining the width of the output port when the width of the input port is greater than the width of the output port;

formatting the data from the input port to data configured for the obtained width of the output port;

submitting the formatted data as the processed data; and,

transmitting the processed data to the destination output port.

17. A machine for transmitting data between customized ports and a plurality of system agents in a processing system via a crossbar, the machine comprising a set of instructions to:

receive data on an input port;

obtain a destination output port for the data received on the input port;

determine whether the input port has the same configuration as the output port;

obtain control information from a crossbar control data when the input port does not have the same configurations as the output port;

process the data according to the obtained control information from the crossbar control data;

wherein the processing of the data further comprising:

determining whether the width of the input port is more than the width of the output port;

submitting the data as processed data when the width of the input port is not more than the width of the output port;

obtaining the width of the output port when the width of the input port is greater than the width of the output port;

formatting the data from the input port to data configured for the obtained width of the output port; and,

submitting the formatted data as the processed data; and,

transmit the processed data to the destination output port.

EVIDENCE - APPENDIX

None.

RELATED PROCEEDINGS- APPENDIX

None.